

Terminal Tractor/Yard Spotter

Used Yard Spotter Escondido - Tow tractors, sometimes call towing tractors or tow tugs, are vehicles used in transporting loads horizontally in warehouses, manufacturing plants, airports, arenas and other large facilities. They are capable of towing several trailers in a train formation. Certain tow tractors can transport helicopters and giant airplanes for the purpose of positioning inside and outside airport hangars and terminals. The tractive effort concept is how loads move from place to place. Tractive effort refers to the total amount of traction a vehicle deploys on the ground. The heavier the load is, the more tractive effort is needed. The unit works by lifting a part of the load while it is towing; however, the load's wheels stay on the ground. The load is partially lifted by use of the tow tractor's hydraulic mast which is specifically designed to produce downforce on the drive wheel immediately beneath it, increasing the tractive effort. Traction allows the machine to deliver very large and heavy loads. Types of Tow Tractors Heavy-duty tow tractors and load carriers are two types of tow tractors. Load Carriers Many industries including airport baggage divisions, manufacturing, parcel transportation and e-commerce rely on moving items of various sizes to and from different locations. Tow tugs or load carrier tow tractors are excellent for these jobs as they can maneuver single items stacked on wheeled platforms for streamlined transport. Load carrier tow tractor models are categorized in the material handling equipment that covers cranes, forklifts and pallet jacks. Load carrier tow tugs transport loads at ground level only, rather than lifting or lowering off the ground or from shelving or other hard to reach areas. This means that the load has already been on wheels or placed on a wheeled platform before transport. Wheeled platforms are called skates, trollies and bogies. The tow tractor attaches to the trolley and operates similarly to how train cars are attached to a locomotive. Typically, the tow tug features a steel coupling male-end that attaches to a female-end on the trolley's front. The trolley's back portion has a male-end steel coupling that can be used to connect a variety of trollies to a single tug. Tow tractors with a train of trollies enable a wider range in the type of items that can be transported and in the types of conditions they can be transported. Trolley types differ to provide customization options. Many trollies can be connected since they are compatible with one another. Different kinds of trollies can be maneuvered in a single train, creating flexible transport options. A key benefit of using a load carrier tow tractor is that operators can enjoy a clear view instead of relying on forklifts. Load carrier tow tractors transport trollies in a forward direction which decreases the safety concerns common with reverse forklift operations. This design is excellent for locations that have a high level of safety such as manufacturing locations and airports. It is more economical to tow multiple items when possible with a tug than using a forklift truck to transport single items. They are safe and easy to maneuver. One benefit of these tow tugs is that an operator usually does not require a license. This is because the load is not lifted from the ground so it does not fall under the usual restrictions and licensing required of standard forklifts, cranes and other load lifting equipment. There are three subtypes of load carrier tow tractors: 1. Pedestrian; 2. Stand-in; and 3. Rider-seated. Pedestrian Tow Tractors A walk-behind model that can transport wheeled loads is called a pedestrian tow tractor. These machines may go by the names of electric hand tug, electric tugger, electric tug or tow tractor. It is compact, maneuverable and easy to use. Stand-in Tow Tractors The most common design for businesses that rely on horizontal manufacturing transport and order picking are stand-in tow tractors. These units deliver a secure driver platform and deliver a smaller footprint compared to the rider-seated models. Rider-Seated Tow Tractors The rider-seated tow tractors are similar to the stand-in tow tractors with the exception they provide a seated platform for the driver. These types of load carrier tow tractors are popular where loads are transported over longer distances, such as airport baggage systems where checked baggage is transported from the check-in counter at the front of an airport to the aircraft at the terminal, often a great distance from one another. Reducing rider fatigue, the rider-seated models deliver more efficiency. Heavy Duty Tow Tractors In the aviation industry, large passenger and cargo planes usually employ the concept of pushback.

Pushback is the process of pushing an aircraft back from the terminal by means not originating from the aircraft's personal power. Pushback is achieved by employing pushback tugs or pushback tractors. Pushback tractors are designed with a low profile design to enable them to move under the aircraft's nose in order to attach to the aircraft. Since the aircraft weight is heavy, these units need to be heavy in order to retain adequate ground friction to move the aircraft. A typical tractor for large aircraft weighs up to 54 tons. They usually have a driver's cab that can be raised and lowered to increase visibility when reversing. While the vehicle is referred to as a pushback tug or pushback tow tractor, it is also used to tow aircraft in areas where taxiing the aircraft is not practical or safe, such as moving large aircraft in and out of maintenance hangars. There are two subtypes of pushback tow tractors: 1. Conventional; and 2. Towbarless.

Conventional Pushback Tow Tractors These units use a tow bar to attach the tug to the nose landing gear on the aircraft. Laterally attached to the nose landing gear, the tow tractor can make certain slight vertical height adjustments if needed. At the end that attaches to the tug, the tow bar may pivot freely laterally and vertically. The tow bar functions as a sizeable lever to facilitate nose landing gear rotation. Every aircraft has a special tow fitting and the towbar functions as an adapter between the fitting on the landing gear and the standard-sized tow pin. Heavy-duty towbars required for sizeable aircraft ride on their own wheels when they are disconnected from the machine. The hydraulic jacking mechanism is attached to the wheels, allowing the towbar to lift to the correct height in order to mate with the tug and the aircraft. The same means are used in reverse during the pushback process to raise the towbar wheels from the ground. The towbar is capable of being connected at the tractor's rear or front, depending on if the machine needs to be pulled or pushed. Depending on whether the aircraft needs to be pushed or pulled, the towbar can be attached to the front or rear of the tractor.

Towbarless Pushback Tow Tractors Towbarless tractors, as their name suggests, don't rely on a towbar. Instead, these machines scoop up the nose landing gear to lift it off of the ground so the tug can move the plane. This offers better control and higher speeds while eliminating the requirement of having a worker stationed in the cockpit to put the brakes on. The main advantage of a towbarless tug is simplicity; there is no need to maintain multiple towbars. Greater control and responsiveness while moving the aircraft is achieved with this direct connection of the tug to the landing gear.